

IN THE  
UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Timothy H. Joyce

Serial No.:

Examiner:

Filing Date:

Group Art Unit:

Title: Microarray Based Affinity Purification And Analysis Device Coupled With Solid State Nanopore Electrodes

COMMISSIONER FOR PATENTS  
PO Box 1450  
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Sir:

This Information Disclosure Statement is submitted:

- ☒ under 37 CFR 1.97(b), or  
(Within three months of filing national application; or date of entry of national application; or before mailing date of first office action on the merits; whichever occurs last)
- ☐ under 37 CFR 1.97(c) together with either a:  
☐ Statement under 37 CFR 1.97(e), or  
☐ a \$180.00 Processing fee under 37 CFR 1.17(p), or  
(After the 37 CFR 1.97 (b) time period, but before final action or notice of allowance, whichever occurs first)
- ☐ under 37 CFR 1.97 (d) together with a:  
☐ Statement under 37 CFR 1.97(e), and  
☐ a \$180.00 processing fee under 37 CFR 1.17(p).  
(Filed after final action or notice of allowance, whichever occurs first, but before payment of the issue fee)

Please charge to Deposit Account **50-1078** the sum of \$0.00. At any time during the pendency of this application, please charge any fees required or credit any overpayment to Deposit Account **50-1078** pursuant to 37 CFR 1.25.

☐ Applicant(s) submit herewith Form PTO 1449. References identified with an asterisk (\*) were disclosed in Patent Application No. \_\_\_\_\_ filed \_\_\_\_\_, now U. S. Patent No. \_\_\_\_\_, and, as such, copies thereof are not included pursuant to the provisions of 37 CFR 1.98(d).

☐ A concise explanation of the relevance of foreign language patents, foreign language publications and other foreign language information listed on PTO Form 1449, as presently understood by the individuals(s) designated in 37 CFR 1.56 (c) most knowledgeable about the content is given on the attached sheet, or where a foreign language patent is cited in a search report or other action by a foreign patent office in a counterpart foreign application, an English language version of the search report or action which indicates the degree of relevance found by the foreign office is listed on form PTO 1449 and is enclosed herewith.

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I hereby certify that this is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to: Commissioner for Patents, PO Box 1450, Alexandria, VA 22313-1450.

By Orlando Quiroz  
Typed Name: Orlando Quiroz

Respectfully submitted,

Timothy H. Joyce

By Timothy H. Joyce  
Timothy H. Joyce

Attorney/Agent for Applicant(s)  
Reg. No. 38,197

Date: 4/6/04

<b>FORM PTO-1449</b>  <b>LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT</b>  (Use several sheets if necessary)	ATTY. DOCKET NO. <b>10040296-1</b>	SERIAL NO.
	APPLICANT <b>Timothy H. Joyce</b>	
	FILING DATE	GROUP

## REFERENCE DESIGNATION

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL	*	DOCUMENT NUMBER	DATE	NAME
		4,458,066	Jul. 3, 1984	Caruthers et al.
		4,500,707	Feb. 19, 1985	Caruthers et al.
		5,153,319	Oct. 6, 1992	Caruthers et al.
		5,449,754	Sep. 12, 1995	Nishioka
		5,807,522	Sep. 15, 1998	Brown et al.
		5,869,643	Feb. 9, 1999	Chatelain et al.

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	NAME	TRANSLATION	
					YES	NO
		WO 95/25116	21.09.95	Baldeschwieler et al.	x	
		EP0294196B1	06.03.96	Andrus et al.	x	
		WO 98/41531	24.09.98	Blanchard	x	

## OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)

	Itakura et al., Title: Synthesis And Use Of Synthetic Oligonucleotides", Annual Review Of Biochemistry, 1984, Vol. 53, pp. 323-56.
	Caruthers, Title: "Gene Synthesis Machines: DNA Chemistry And Its Uses," Science, Oct. 18, 1985, Vol. 230, pp. 281-5.
	Hunkapiller et al., Title: "A Microchemical Facility For The Analysis And Synthesis Of Genes And Proteins", Nature, 1984, Vol. 310, pp. 105-15.

EXAMINER	DATE CONSIDERED
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\* Copies of these references are not enclosed pursuant to 37 CFR 1.98(d). (See accompanying IDS)

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					YES	NO

## OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)

	Kasianowicz et al., Title: "Characterization Of Individual Polynucleotide Molecules Using A Membrane Channel", Proc. Natl. Acad. Sci. USA, Nov. 1996, Vol. 93, pp. 13770-13773.
	Li et al., Title: "Ion-Beam Sculpting At Nanometre Length Scales", Nature, July 12, 2001, Vol. 412, pp 166-169.
	Flory, Title: Apparatus And Method For Biopolymer Identification During Translocation Through A Nanopore", USSN: 10/352,675, Agilent Ref.: 10030031-1, Filing Date: Jan. 27, 2003.

EXAMINER	DATE CONSIDERED
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FORM PTO-1449

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					YES	NO

## OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)

		Bruhn et al., Title: "Microarray Based Affinity Purification And Analysis Device Coupled With Secondary Analysis", USSN: 10/631,033, Agilent's Ref.: 10030004-1, Filing Date: July 30, 2003.

EXAMINER	DATE CONSIDERED
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\* Copies of these references are not enclosed pursuant to 37 CFR 1.98(d). (See accompanying IDS)